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Institutional Contexts as Predictors of Transferable Skills Development among Pakistani Undergraduates

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Abstract: *Across the globe, universities emphasize transferable skills development and equip learners with the multidimensional capabilities needed to navigate contemporary workplace demands. Transferable skills are defined as generic skills or cross-contextual proficiencies that include communication, problem-solving, analytical, critical, creative and innovative thinking, teamwork, interpersonal, and self-directed learning skills. This study aims to assess institutional context variables as predictors of transferable skills development among undergraduates. A causal-comparative research design was employed. Using a stratified random sampling technique, 597 undergraduates enrolled in three public sector universities of Sindh province, Pakistan completed the survey questionnaires. Descriptive findings indicate that learners demonstrated below-average levels of transferable skills in analytical and critical skills, teamwork and interpersonal skills, academic communication skills, creative thinking and innovation skills, and self-directed learning skills. Furthermore, institutional factors such as university context, departmental affiliation, year of study, and residential status emerged as significant predictors of transferable skills development among undergraduates. Learners registered in the University of Sindh showed relatively higher levels of transferable skills compared to students enrolled in GC University Hyderabad and Shah Abdul Latif University, Khairpur. Students belonging to Education programs also exhibited greater transferable skills than learners in Natural Sciences, Arts, Commerce, Social Sciences, and Computer-related disciplines, highlighting the importance of pedagogical orientation and curriculum design. Year-wise academic progress further revealed that sophomores reported superior transferable skill sets compared to freshmen, juniors, and seniors. Additionally, out-of-campus learners displayed a greater extent of transferable skills than hostel residents. For policy implications, universities should set national benchmarks and initiate targeted interventions to ensure continuous skill advancement.*

Keywords: Transferable Skills Development, Institutional Context Factors, Different Universities, Departments, Year of Study, Place of Residence

Introduction

Throughout the globe, higher education (HE) undergoes increasing pressure stemming from rapid technological innovations, internationalization, and the gradual shift towards knowledge-oriented and human capital-driven economies. Due to this shift, societies expect from the higher education institutions (HEIs) not only to disseminate subject-specific knowledge but also to develop a rich array of transferable skills and competencies of the university graduates (Tuononen et al., 2025). Throughout academic careers of the graduates, transferable skills, digital, interpersonal, and adaptive skills are most imperative in the context of modern workforce and economic demands (OECD, 2025). The World Economic Forum underscored that competencies and transferable skills include creativity, analytical thinking, collaborative, communication, and self-directed learning skills, which are gaining huge recognition from the employers (Leopold et al., 2025).

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Notwithstanding the broad and strong consensus on the role of transferable skills needed for the graduates, emerging evidence indicates that graduating students are significantly deficient in employability skills particularly in the domain of critical thinking (Tuononen et al., 2025). According to Jackson (2025) and Succi and Canovi (2020), majority of employers are not satisfied with the university graduates in terms of their readiness to handle the challenges of work demands particularly related to transferable skills, such as teamwork, problem-solving, and communication skills. This situation has led to trigger accountability pressures on the HEIs to align the learning gains of the students with the expectation and demands of the labor market. According to Qin & Chen (2025), HEIs are needed to rationalize their societal relevance, and the output of the graduates must contribute to the social and economic development of the country.

Therefore, several organizations, such as Organization for Economic Cooperation and Development (OCED) and Asia-Pacific Economic Cooperation (APEC) underscore the generic, transferable or 21st century skill development among the graduates as a global top priority (OECD, 2025). Following these developments, the HEIs of the developed world put great emphasis on talent cultivation, and equip the graduates with competencies and skills beyond subject-specific knowledge preparing them for their role as effective members of modern world and global citizens (Chan et al., 2017). For this purpose, innovative pedagogical techniques and active learning approaches, such as project-based, collaborative, problem-based learning strategies have been adapted to improve student engagement and acquisition of skills and competencies (Prince, 2004; Kuh, 2008). Moreover, industry partnerships for providing students the opportunities of internships and practical contexts are prioritized as a mandatory learning and contiguous assessment part within the institutional frameworks (Kuh, 2008).

The adaptation of the effective pedagogical approaches and the best practices by the various institutions significantly vary in terms of learning environments, and the type of the universities, departmental structures, residential facilities, and the opportunities students have for their talent development (Astin, 1991). This is because of the levels of competencies of the teachers and the dedication of the students and the major in which students are enrolled (Gruber, 1980). The scholarship suggests that the culture of university, quality of teaching staff, and availability of learning resources vary in different universities, resultantly, these inequalities are key reasons for the overall learning and development of the students (Marginson, 2016). Likewise, the learning experiences of the students vary in different departments and the fields of studies in which students are enrolled because specific departments adopt collaborative and effective pedagogy than other departments (Becher & Trowler, 2001). Similarly, the residence-environment and resources also shape students' social as well as academic experiences. That student who lives on-campus frequently interact with their peers, get easy access to the university resources, and engage themselves in various co-curricular activities, which lead them to great development of transferable skills (Astin, 1991; Pascarella & Terenzini, 2005). In addition, the students' year of study is also one of the major factors influencing transferable skills because with the passage of time as students' exposure increases, they learn complex skills (Kinzie & Kuh, 2017).

Identification of Research Gap and Problem Justification

Pakistani university education over the preceding two decades has experienced rapid expansion underpinned by significant growth in investment and policy reforms. Despite such upward trends, quality issues persist because the focus has been diverted to deliver the theoretical subject-specific knowledge by ignoring the practical and holistic development of the graduates (Ishaq & Asghar, 2025; Riaz et al., 2025; Vazquez-Parra et al., 2025). In global perspective, accordingly, majority of the students attain only theoretical knowledge lacking in essential transferable skills, which are most attractive for the employers (Okolie et al., 2020). These drawbacks are further exacerbated by limited institutional support and inadequate resources across various universities, departments, residential structures, and academic year of the students. According to Ishaq and Asghar (2025), these challenges become critical for policymakers due to economic uncertainty in the country and the increasing unemployment rates of graduates in Pakistan. The Pakistani graduates lack employability

skills because of mismatch between the curricula and industry demands, which is a fundamental challenge (Riaz et al., 2025). According to Accountability Lab Pakistan (2024), university graduates are lacking in the areas of critical thinking skills, communication skills, practical-oriented application of knowledge, and digital literacy skills. The industrial expansion demands technological competence, adaptability in various situations, and problem-solving skills, which are lacking in Pakistani graduates (Butt et al., 2020).

According to Shabbar and Hussain (2024), disparities exist among the Pakistani graduates since students graduating from the universities located in less developed regions face higher unemployment rates. This is because of heterogeneous distribution of learning resources, infrastructure, educational standards, and teaching-learning quality (Shah, 2025). Moreover, study of Zia et al. (2023) concluded that outdated curricula, traditional teaching-approaches and lack of industry collaboration are major reasons for student transferable skills development. Most of the universities in Pakistan excessively give prioritizing to publication outcome over industry engagement and innovative teaching strategies; as a result, their focus is diverted to theoretical transformation of knowledge by adapting traditional instruction rather than innovative teaching and offering practical opportunities to their graduates in industries; thus, universities fail to address employability challenges of undergraduates (Khan & Clegg, 2025). Pervez et al. (2024) found that employers in Pakistan are very concerned over the readiness of the graduates for work, since they are lacking in practical skills, professional attitudes and problem solving strategies. In the context of Pakistan, there is a potential mismatch between university outcomes and the employers' demands concerning the required transferable skills and workplace competence (Shah, 2025). This is because employers place greater significance to adaptability skills, technological literacy, and communication skills (Malokani et al., 2023). Pakistan's national education policy, the Higher Education Commission, and provincial governments emphasize curriculum reforms, industry-university collaboration, and faculty development with the aim to increase transferable skills among the youth. In contrast, there is a gap in the implementation of the existing policies and lack of resources for the effectiveness of those policies in real practice (Rauf & Shahzadi, 2023). Beside this, in Pakistani universities, majority of students enrolled from diverse backgrounds with below average preparation for the university education. These under-prepared students may encounter adaptation challenges and struggle to cope with university demands. Therefore, university-related factors are instrumental in fostering or obstructing the development of transferable skills. In Pakistan, there is a lack of comprehensive investigations that explore the collective influence of institutional factors, which may include the influence of inconsistent patterns in various universities, departments, place of residence, and year of study on the development of transferable skills among undergraduates. The existing scholarship suggests that most of the studies underscore the influence of single variable by adopting descriptive research approaches, which delimited to capture whole influence of institutional factors. Consequently, this research has been carried out to examine how various institutional factors play a role in fostering transferable skills development among university undergraduates.

Defining the Concept of Transferable Skills

Around the globe, transferable skills, regardless of domain-related limitations, are acknowledged as vital set of capabilities, which facilitate people in functioning efficiently in multidimensional settings. Other terms are also used to refer to these skills i.e. transferable skills, employability skills, and graduate attributes. Vazquez-Parra et al. (2025) defined professional competency set as graduate attributes that are crucial part of HE outcomes, highlighting their essential part in making learners ready for professional and sociocultural tasks. Succi and Canovi (2020) specified transferable skills as a set of capacities enhancing employment opportunities and resultantly improving communication skills, adaptableness, team-work, and problem-solving abilities. Jackson and Dean (2023) called them vigorous and contextually-oriented, which change owing to the job-market demands and technological developments. Commonly, transferable skills set contain a blend of capabilities: cognitive skill set comprises critical thinking, analytical reasoning, and problem-solving capabilities. Interpersonal skills involve capabilities to communicate effectively, work in a team, and perform leadership roles. These skills, involving discipline, adaptableness, and purpose, help people in

managing learning and conduct. All of these dimensions are connected and makes a collective contribution to holistic learner advancement.

Contemporary studies have underlined the value of embracing multifaceted frameworks for determining transferable skill set and highlighted the connections of these domains within HE curricula. OECD (2025) underscores the significance of merging knowledge, capabilities, mindsets, and beliefs to support lifelong education. In the same manner, the World Economic Forum classified transferable skills i.e. cognitive, social, and technological capabilities, which are of fundamental importance for future employment (Leopold et al., 2025). Governmental policies underline the significance of skill advancement; however, huge disparities exist about proper definition and assessment of these skills. This disparity presents colossal challenges for investigators and experts and resultantly requires a broad recognition of transferable skill set in local settings.

Theoretical Framework and Foundations

This investigation is deeply-rooted in a variety of theoretical approaches. They supply a broad structure for recognizing transferable skill advancement in HE. Among the most important theoretical approaches, Learner Engagement Theory advances that the magnitude of learners' active participation in learning activities affect academic performance. Kuh (2008) forwarded that students' engagement in impactful activities, for example combined learning and inquiry-based learning, has strong association with advancement of transferable skills. Along with that, Constructivist Learning Theory underlines that knowledge is socially constructed and acknowledges the role of sociocultural environment. In the view of Vygotsky (1978), learning is a socially-oriented experience involving social environment including HEIs. Constructivist-oriented instructional methodologies, for example problem-based method, are known to boost transferable skills set (Prince, 2004). Human Capital Theory forwards a valuable perspective for comprehending the part played by HE in skill advancement. Becker (1993) theorized 'education' as individuals' investment for the enhancement of efficiency and economic worth. It suggests that the advancement of transferable skills set is necessary for personal accomplishment and national-level development of economy. Furthermore, Ecological Systems Theory (Bronfenbrenner, 1977) advances broad understanding about multiplicity of contexts, involving institutional surroundings, act together to affect learner advancement. This approach has particular relevance for observing how university-type, major/ school/ department, and students' residential status influence academic performance. Collectively, the mentioned approaches underline the relationship between individual and institutional components in influencing transferable skill set advancement. Together, they supply a vigorous basis for the investigation of how differences among institutions affect learner accomplishment.

Institutional Context as Predictor of Transferable Skills Development: Hypotheses Formulation

The optimal learning opportunities and high-quality contextual environment of the HEIs is most important for reshaping the educational experiences and transferable skill development. The scholarship suggests that the characteristics of institutions, learning environment of the departments, on-campus residence and the year of study are instrumental and key predictors of gaining transferable competencies (Astin, 1991, Kuh, 2008). Acquiring transferable skills are structurally embedded in university structure, vision, mission, values, and cultures, since it regulates access to learning resources, pedagogic practices, and engagement opportunities in purposeful activities (Qin & Chen, 2025). These institutional areas are prominent in the context of HE in Pakistan because there is a lot of variations across the institutions and departments in terms of resource access, interpersonal interactions, teaching practices and involving students in meaningful learning process, which increase or decrease transferable skills development among the undergraduates. Research suggests that these variations in university quality, pedagogical practices, availability of resources give rise to inequities in development of transferable skills (Ishaq & Asghar, 2025; Vazquez-Parra et al., 2025). Likewise, due to the lack of adapting student-centered pedagogic approaches in several universities systematically marginalizes access to learning opportunities for development of transferable skills. These

concerns point to systemic gaps that necessitate an empirically informed understanding of how institutional characteristics shape transferable skills in the context of Pakistan. To learn about the influence of these institutional factors is imperative for the strategic development of context-sensitive pedagogical intervention and effective educational policies. For this purpose, four independent variables include universities, departments, year of study, and place of residence are considered which is assumed that these all influence transferable skills development among undergraduates.

The HEIs offer diverse categories of professional programs, so these vary significantly in terms of their environment and reputation (Astin, 1991). This discrepancy in terms of unequal resource allocation and teaching quality also influence students' learning abilities and outcomes. Unequal learning opportunities leads to lower gains while enriched-resources allocation with better learning environment increase student learning and development (Marginson, 2016). Pascarella and Terenzini (2005) concluded that institutional environment such as curriculum, living arrangements, and organizational policies influence student personal development, interpersonal relationships, student persistence, and student learning aspirations. Liang et al. (2012) found that institutional environment, such as departmental facilities and buildings have significant effect on student learning. Due to global ranking system, and competition among the institutions, the race has further exacerbated to the escalation of disparities culminating in unfavorable outcomes in low quality of teaching and less student engagement (Hazelkorn, 2017). In developing countries context such as Pakistan, these variations among the universities differ widely particularly with respect to infrastructure, access to learning resources and facilities, and the provision of quality of teaching (Riaz et al., 2025; Vazquez-Parra et al., 2025). Diversity among the universities ultimately have yielded undesirable consequences, such as differentiated learning experiences and disparities in students' capabilities, huge gap in graduation rates, and skills development (Marginson, 2016; Hazelkorn, 2017). Moreover, institutions adapting entrepreneurship, creativity, and innovation into academic curricula, meaningfully increase student transferable and employability skills (Chou et al., 2023). A study of Jackson & Wilton (2017) found differences in employability skills among the university students due to the teachers' expertise, and overall learning environment at various departments. A study of Longxiang et al. (2024) found that students enrolled in high-status institutions depicted higher employability skills as compared to those who were enrolled in less prominent universities. A study of Khalid et al. (2025) found differences in employability skills since students registered at research-based institutions reported higher employability skills than those who were registered at applied institutions. Therefore, we assume that:

H1: Students' transferable skills development differs significantly across universities

Scholarship suggests that students' major field of study or their department greatly influences transferable skills development. The choice of major field of study is most important decision for students. Students' decision for choosing a subject affects student interactions with teachers and peers and influences on student learning experiences. Those students, who enjoy their major, possibly show greater affiliation with their departments. Umbach and Porter (2002) emphasized that characteristics of departments for instance, faculty-student interactions, resources availability, and research emphasis had a significant impact on student skill development. Chan and Fong (2018) confirmed that departments or major field of student is the most important predictor of transferable skills development because students belonging to business major rated higher level of transferable skills than engineering students do. Hayek and Kuh (1999) found that student belonging to engineering, physical sciences and biological sciences were better in learning gains and competencies than student belonging to arts, theater, music, humanities, foreign languages, and education. In addition, Kuh et al. (2006) demonstrated that student belonging to mathematics, science and engineering majors have little experiences with diversity while student belonging to social sciences and humanities majors have good experiences with diversity. Likewise, Pascarella and Terenzini (2005) summarized that student major field of study had most visible impacts on student cognitive and career outcomes. A study of Monteiro et al. (2021) found differences among Portuguese university students regarding perceived employability skills

revealing that students majoring in engineering rated higher levels of employability skills as compared to humanities, and economics majors. Wang et al. (2024) concluded that in China, students majoring in fine arts commonly face uncertainty in career development due to this, and perceive low levels of employability skills. A study of Harb et al. (2024) also found that students enrolled in tourism and hospitality departments perceived higher level of employability skills. A study of Jones (2009) found that in Australian universities, transferable attributes such as analytical, critical thinking, communication and problem solving skills significantly vary among medical, law, economics, physics and history students. In Pakistani context, a recent study of Vazquez-Parra et al. (2025) noted that students majoring in humanities and education departments reported noticeably low level of perceived competency in complex scientific thinking skills, innovative thinking and problem-solving skills. Therefore, we assume that:

H2: Students' transferable skills development differs significantly across departments or major fields

Beyond other contributing predictors, students' academic year of enrollment also represents as an imperative determinant of transferable skills development. Gradually, as students' academic progression advanced, they tend to acquire more competencies because of their growing exposure in complex tasks. A study of Espey (2018) found that seniors and sophomores were less effective at developing writing skills while freshmen were more positive about the development of their wiring skills. Kinzie and Kuh (2017) highlighted that senior undergraduates show a higher probability of participation in academic activities, such as research projects and internships, which leads them to increase higher level of skills development. A study of Qenani et al. (2014) found that perceived employability decrease for senior students as compared to sophomores, which suggest that as students reach last year of university, their confidence in their employability skills decreases. Similar findings were obtained by Jackson and Wilton (2017), who found that in United Kingdom, the final year students demonstrated significantly lower level of perceived employability skills as compared to first year students. Conversely, Pascarella and Terenzini (2005) emphasized that as students reached final year, they significantly gained more development and skills levels. Therefore, we assume that:

H3: Students' transferable skills development differs significantly across year of study

The institutions offering on-campus living arrangements is considered as a significant component of student's university life. Living on-campus, students interact with diverse background of other students and share their learning experiences as well as participate in various activities. Therefore, on-campus learning facilities, and services have influence on students' overall holistic development (Lukens et al., 2022). According to Cheng (2001), on-campus living provide interpersonal opportunities with peers and teachers where they develop their competencies. On-campus students are engaged more in various activities and gain positive learning experiences, which lead to higher level of learning and development (Pascarella & Terenzini, 2005; Kuh et al., 2006). Theory of student involvement (Astin, 1981) argues that students who live on-campus become critical thinkers as compared to those who live off-campus. Pace (1984) found differences between on campus and off campus students' learning gains. Pascarella and Terenzini (2005) highlighted that on-campus students are comparatively more involved in collaborative activities, which lead them to enhance transferable skills. A study of Lukens et al. (2022) found that on-campus living improves students' capability to develop meaningful relationships and college friendships, which lead them to holistic development of students. However, in the context of Pakistani hostels, there are many variations in terms of boarding-facilities (Yousfani et al., 2024). Therefore, we assume that:

H4: Students' transferable skills development differs significantly across place of residence

Research Methodology

To find out the role of institutional factors in developing student transferable skills in Pakistani universities, a quantitative research approach and causal-comparative research design were adopted. The causal-

comparative research design, informed by Creswell and Creswell (2023), refers to assess potential cause and effects of two or more groups that already have experienced a particular event, condition or action. A causal comparative research is used to find out the predictive effects (Creswell & Creswell, 2023). In this study, the institutional context variables, such as different universities, departments, year of study, and current residence of the students are considered as predictor variables of transferable skills development among Pakistani undergraduates. For this study, we applied stratified random sampling technique distributing the departments, place of residence and year of study.

Research Tool

Data for this investigation are collected using a structured questionnaire survey. Survey design makes up a common methodology in education research, used because it helps in efficiently gathering standardized data from a large figure of study-participants (Creswell & Creswell, 2023). The questions assessing transferable skills are obtained from graduate skills and employability domain. Items about transferable skill advancement were obtained from the 'Student Engagement Questionnaire' forwarded by Kember and Leung (2009) and the subset generic skills from 'Course Experience Questionnaire' forwarded by Wilson et al. (1997). Five-point Likert scale was used to measure all items. The scale ranged from 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree. Research studies in Social Sciences extensively apply Likert scales as they are useful to obtain target-populations' views on a certain construct. Regarding the reliability of the scale, Cronbach's alpha coefficients were established. Reliability implies the consistency and stability of a measurement tool (Creswell & Creswell, 2023). Cronbach's alpha values ranging from 0-1, where greater values signified higher reliability, were used. Generally accepted standards recommend the following: $a \geq 0.70$ indicates average reliability, $a \geq 0.80$ shows good reliability, $a \geq 0.90$ reveals excellent reliability (Hair et al., 2019). Every construct was examined individually. All 20 items of students' overall transferable skills questionnaire are displayed through Table 1 where Cronbach's Alpha was ($a = .913$); whereas for the first factor academic communication skills ($a = .940$), for the second factor analytical and critical thinking skills ($a = .883$), for third factor creative thinking and innovation skills ($a = .953$), for fourth factor self-directed learning skills ($a = .937$), and for fifth factor teamwork and interpersonal skills ($a = .938$), which all values showed high-level of reliability.

Table 1

Reliability of the Research Tool

Factors	Cronbach's Alpha	Items
Academic Communication Skills	0.940	04
Analytical and Critical Skills	0.883	04
Creative Thinking and Innovation Skills	0.953	04
Self-Directed Learning Skills	0.937	04
Teamwork and Interpersonal Skills	0.938	04
Overall Transferable skills	0.913	20

Data Analysis

Data analyses were performed with the help of statistical software SPSS ver-27. To begin, frequencies, means, standard deviations, and percentages were computed. After that, to test the hypotheses, t-test and ANOVA tests were calculated to check the group differences in students' transferable skills development across various universities, departments, current place of residence and year of study. Before applying t-test and ANOVA, major assumptions such as normality, multicollinearity, linearity, outliers and missing data were reviewed and ensured carefully.

Participants

In this study, 597 undergraduate students voluntarily participated. Table 2 demonstrated that large number of students belong to the University of Sindh ($n = 268$, 44.9%), followed by the Government College

University, Hyderabad (n = 178, 29.0%), and the Shah Abdul Latif University (n = 156, 26.1%). Similarly, the large number of students belong to juniors or 3rd year (n = 211, 35.3%), followed by seniors or 4th year (n = 199, 33.3%), sophomore or 2nd year (n = 101, 16.9%), and freshmen (n = 86, 14.4%). Likewise, the distribution in terms of current residence comparatively a large group of students lived in off-campus (n = 314, 52.6%) and relatively small group were lived on-campus (n = 283, 47.4%). The students belong to various faculties and departments showed that the large group of students were enrolled in the department/ faculty of natural sciences (n = 166, 27.8%), followed by the department of computer, IT and mathematics (n = 130, 21.8%), social sciences (n = 91, 15.2%), arts and humanities (n = 86, 14.4%), commerce and business administration (n = 65, 10.9%), and students belong to education (n = 59, 9.9%).

Table 2

Participants

Institutional Characteristics	Category	Frequency	%age
University	Shah Abdul Latif University	156	26.10
	GC University Hyderabad	173	29.00
	University of Sindh	268	44.90
	Total	**597**	**100.0**
Year in University	Senior	199	33.30
	Junior	211	35.30
	Sophomore	101	16.90
	Freshmen	86	14.40
	Total	**597**	**100.0**
Current Residence	On-Campus	283	47.40
	Off-Campus	314	52.60
	Total	**597**	**100.0**
Faculties/ Departments	Education	59	9.90
	Commerce & Business Administration	65	10.90
	Natural Sciences	166	27.80
	Arts & Humanities	86	14.40
	Social Sciences	91	15.20
	Computer/ IT/ Mathematics	130	21.80
	Total	**597**	**100.0**

Descriptive Results of Transferable Skills

Descriptive results are shown in Table 3. Results reveal that based on five point Likert scale, overall the level of transferable skills are very low (M = 2.77, SD = 0.68, 44.45%). Looking at the first factor such as analytical and critical skills (M = 2.75, SD = 0.90, 43.9%), the second factor, such as teamwork and interpersonal skills (M = 2.70, SD = 0.88, 42.5%), the third factor, such as academic communication skills (M = 2.69, SD = 0.89, 42.2%), the fourth factor such as creative thinking and innovation skills (M = 2.59, SD = 1.05, 39.9%), and the fifth factor such as self-directed learning skills (M = 2.30, SD = 0.79, 32.7%). These descriptive results provide evidence that student's current level of transferable skills very low.

Table 3

Levels of Transferable Skills

Factors	Sample (n)	*Mean*	*SD*	*%age*
Analytical and Critical Skills	597	2.758	.9078	43.95%
Teamwork and Interpersonal Skills	597	2.703	.8885	42.57%
Academic Communication Skills	597	2.691	.8967	42.27%
Creative Thinking and Innovation Skills	597	2.599	1.053	39.99%
Self-Directed Learning Skills	597	2.309	.7939	32.72%
Overall Transferable skills	597	2.778	.6815	44.45%

Results of Transferable Skills Development across Universities

To assess the differences across different universities, this study applied ANOVA test and Games Howell post-hoc comparisons. Results are demonstrated in Table 4. From the given table, it is found that there are statistically significant variations across different university and students' transferable skills development, $F(2, 594) = 44.168$, $p = 0.001 < 0.01$). To determine which university is significantly different, the results of Games-Howell post-hoc reveal that students enrolled in the University of Sindh ($M = 2.52$, $SD = 0.56$) were significantly different since students rated higher scores of transferable skills as compared to other two universities such as Shah Abdul Latif University ($M = 2.19$, $SD = 0.54$), and GC University Hyderabad ($M = 2.05$, $SD = 0.49$). This suggests that students belonging to University of Sindh perceived comparatively higher level of transferable skills in relation to Shah Abdul Latif and GC University Hyderabad.

Table 4

Transferable Skills Development across Universities

University	*N*	*Mean*	*SD*	*F* (2, 594)	Post-hoc Comparisons
Shah Abdul Latif University	156	2.199	.546		
GC University, Hyderabad	173	2.052	.493	44.168***	[3>1,2]
University of Sindh	268	2.523	.561		

Note: ***p < 0.001; **p < 0.01, *p < 0.05

Results of Transferable Skills Development across Departments

To assess the differences across different departments, this study applied ANOVA test and Games Howell post-hoc comparisons. Results are demonstrated in Table 5. From the given table, it is found that there are statistically significant variations across different departments and students' transferable skills development, $F(5, 591) = 7.555$, $p = 0.001 < 0.01$). To determine which department is significantly different, the results of Games-Howell post-hoc reveal that students enrolled in the department of Education ($M = 2.66$, $SD = 0.67$) were significantly different since students rated higher scores of transferable skills as compared to other five group of departments such as Commerce and Business Administration ($M = 2.35$, $SD = 0.58$), Natural Sciences ($M = 2.33$, $SD = 0.56$), Arts and Humanities ($M = 2.27$, $SD = 0.50$), Social Sciences ($M = 2.21$, $SD = 0.52$), and Computer, IT, and Mathematics ($M = 2.14$, $SD = 0.54$). This suggests that students registered in the department of Education perceived comparatively higher level of transferable skills in relation to other all departments.

Table 5

Transferable Skills Development across Departments

University	*N*	*Mean*	*SD*	*F* (2, 594)	Post-hoc Comparisons
Education	69	2.660	.672		
Commerce and Business Administration	65	2.356	.581		
Natural Sciences	166	2.337	.565	7.555***	[1>3,4,5,6]
Arts and Humanities	86	2.279	.506		
Social Sciences	91	2.211	.525		
Computer/ IT/ Mathematics	130	2.146	.547		

Note: ***p < 0.001; **p < 0.01, *p < 0.05

Results of Transferable Skills Development across Year of Study

To assess the differences across different universities, this study applied ANOVA test and Games Howell post-hoc comparisons. Results are demonstrated in Table 6. From the given table, it is found that there are statistically significant variations across different year of study and students' transferable skills development, $F(3, 593) = 9.572$, $p = 0.001 < 0.01$). To determine which year of study is significantly different, the results of Games-Howell post-hoc reveal that sophomore ($M = 2.54$, $SD = 0.54$) were significantly different since

students rated higher scores of transferable skills as compared to other three groups of year such as freshmen (M = 2.22, SD = 0.48), juniors (M = 2.19, SD = 0.56), and seniors (M = 2.32, SD = 0.60). This suggests that second year students perceived comparatively higher level of transferable skills as compared to freshmen, juniors and seniors.

Table 6

Transferable Skills Development across Year of Study

Academic Year	*N*	*Mean*	*SD*	*F* (3, 593)	Post-hoc Comparisons
Senior	199	2.322	.604	9.572***	[3>1,2,4]
Junior	211	2.196	.565		
Sophomore	101	2.549	.544		
Freshmen	86	2.225	.482		

Note: ***p < 0.001; **p < 0.01, *p < 0.05

Results of Transferable Skills Development across Place of Residence

To assess the differences across place of residence, this study applied independent t-test. Results are demonstrated in Table 7. From the given table, it is found that there are statistically significant variations across place of residence and students' transferable skills development, $t(595) = -11.811$, $p = 0.001 < 0.01$). To determine which group is significantly different, the means scores of both groups were considered. Results reveal that students living off-campus (M = 2.54, SD = 0.51) were significantly different since students rated higher scores of transferable skills as compared to those who living on-campus (M = 2.03, SD = 0.52). This suggests that students living at off-campus perceived comparatively higher level of transferable skills in relation to on-campus students.

Table 7

Transferable Skills Development across Place of Residence

Residential Contexts	*N*	*Mean*	*SD*	Mean Deference	*t* (595)
On-Campus	283	2.038	.520	-.50262	-11.811***
Off-Campus	314	2.540	.518		

Note: ***p < 0.001; **p < 0.01, *p < 0.05

Discussion and Implication

The current investigation examined the effect of institutional features: different HEI, department/ school, learners' year of study, and residential status on Pakistani learners' transferable skill set advancement in higher education. Study-results disclose extremely troubling patterns: overall transferable skill set level is extensively below average in all the study dimensions. Especially, critical thinking, interpersonal skills, communication skills, innovative skills, and particularly self-directed learning signify inadequate advancement of capabilities required for educational and professional accomplishment. Although statistical significance was detected regarding variations in institutional type, the overall below average mean scores in all study-groups point towards systemic issues in HE.

The widespread deficit in transferable skills match worries at international arena about the variance between HE outcomes and expectancies from workforce. Current studies have emphasized that HEIs around the global are hard-pressed for the production of graduates who are good at transferable capabilities (Succi & Canovi, 2020; Jackson, 2025; Tuononen et al., 2025; Qin & Chen, 2025). For Pakistan, an underdeveloped country, the effects of such challenges are extensive because of structural limitations, for example restricted instructional innovation and unequal institutional position (Riaz et al., 2025; Vazquez-Parra et al., 2025). These results suggest that below average acquisition of skills is not restricted to particular subgroup but characterize a wider systemic challenge for most HEI.

Regarding variations in different universities, the assessment showed that learners from University of Sindh displayed greater level of transferable skill set in comparison to students from Shah Abdul Latif and GC University Hyderabad. The difference features the significance of institutional environment in influencing academic performance. In the view of Marginson (2016), HEI resources, organizational setting, and educational culture have drastic influence on the quality of learners' educational involvement. Therefore, HEIs with greater educational assistance system and advanced instructional practices can promote skill advancement. In the same manner, Hazelkorn (2017) claimed that variation in institutions can cause uneven learning experiences. In Pakistani HEIs with uneven resources, both physical and monetary, and available faculty, such variations call for equal quality regulation. The results regarding variations in department/ school reveal how variation in disciplines can shape transferable skill set advancement. The results regarding learners in Education departments demonstrate greater level of transferable skills in comparison to Science, Arts, Commerce, Social Sciences, and Computer departments implies that instructional orientation is a key factor. For example, the academic discipline of Education focus on reflective practice, collaboration, and communication that has close alignment with transferable skill set (Kember & Leung, 2009). Jones (2009) also confirms that students in disciplines having interactive and student-oriented instruction are likely to grow superior transferable skill set. On the contrary, the technically-oriented disciplines may opt for prioritizing content-knowledge over transferable skills. The results about the relatively inferior accomplishment of students in computer-oriented majors point to curricula loaded with technical expertise and less focus on wider set of capabilities. It aligns with the view of Becher and Trowler (2001), who emphasized that variation in disciplinary cultures affect instructional practices and academic performance.

The variations in students' study years found in the data point to noteworthy patterns, with sophomore learners revealing greater level of transferable skill set than freshmen, junior, and senior learners. It opposes the common belief on progressive improvement of capabilities over time (Pascarella & Terenzini, 2005; Kinzie & Kuh, 2017). This may possibly be due to sophomores experiencing ideal level of engagement after transitioning from the early freshmen stage, and avoiding the pressure related to senior years. Kinzie and Kuh (2017) argued about the fluctuation of student transferable skills as study years, change with a likely influence of academic load, motivation level, and support from institute. This highlighted that students' educational gains at HEI are dependent on the quality of academic experience during various stages of their academic journey. The inferior academic performance of seniors reflects greater educational workload or underemphasis on skill advancement in courses of later years.

Results about residential status of learners are also worth mentioning as they are in stark opposition to the current research. Learners who reside at home/ out of campus showed greater level of transferable skill set in comparison to those who live in hostels. Usually, hostel-residence is inked to higher learner engagement and access to resources, causing improved academic performance (Astin, 1991; Pascarella & Terenzini, 2005; Lukens et al., 2022). Nevertheless, contemporary studies suggest that the advantages of housing environment are dependent on quality of institutional support and learners' involvement level (Cheng, 2001; Lukens et al., 2022). In Pakistani perspective, learners living out-of-campus advance higher skills of self-regulation and critical thinking owing to their lifestyle that involves commuting and managing multidimensional obligations. It is compatible with Pascarella and Terenzini (2005), who underlined that learners' interaction with socioeconomic environment shapes their developmental outcomes.

In spite of differences in institutional characteristics, all the observed groups showed below average level of transferable skill set suggesting that institutional variations cannot replace for systemic weaknesses. It reveals that the underperformance of HEIs does not relate to merely institutional variation, rather it is possibly because of overall lack of success in advancing necessary capabilities. OECD (2025) and Leopold et al. (2025) maintained that efficient skill advancement demands gross alignment between curricula, instructional approaches, and assessment practices. In several HEIs located in Pakistan, such misalignment can likely cause observable weaknesses. Additionally, the inability of learners regarding the development of

superior skills is caused by partial adaptation of active and experiential learning approaches (Kinzie & Kuh, 2017).

The study results also point to the significance of interface between institutional and context-oriented elements. Ecological perspectives on learning indicate that learner advancement is affected by several contextual levels: institutional environment, peer interaction, and sociocultural circumstances (Bronfenbrenner, 1977). In Pakistani perspective, components, for example limited resources, large-strength classroom, and conventional instructional approaches may restrict the success of institutional involvements (Vazquez-Parra et al., 2025). Thus, the problem of transferable skill set advancement necessitates an all-pervasive approach, which involves not only structural and contextual factors.

With respect to policymaking, the findings suggest for complete reforms in HE. The policy elite should give priority to the combination of transferable skill set into national quality assurance frameworks, guaranteeing that HEIs ensure the development of transferable capabilities. Professional advancement programs can also provide teachers with the essential skills needed for the implementation of modern instructional approaches. In addition, HEI leaderships should promote environment, which promotes learner engagement and experiential learning. To sum up, the present investigation furnishes convincing proof that institutional features drastically affect transferable skill set advancement in Pakistan's HE. Nonetheless, the consistently below average skill levels in all the study-groups underline a wider systemic challenge, which necessitates immediate consideration. Though variations in HEIs, department/ major, study-year, and residential status of students provide valued understanding, significant enhancement in transferable skill set would be dependent on broad and continued efforts by both levels: institutional as well as government.

Conclusion

The present investigation examined the impact of institutional features, university context, choice of department/major, year of undergraduate study, and residential status on learners' transferable skill set advancement in Pakistani HE. The results reveal a serious and worrying picture. Overall, learners exhibited below average level of transferable skill set in all dimensions, specifically ineffective performance in self-directed learning and innovative skills. Findings exhibit that in the modern educational and professional environment, HEIs are unsuccessful in efficiently advancing the essential capabilities needed for independent learning, innovation, and adaptableness. Though statistically significant variations have been characterized regarding institutional types, these variations occurred within an overall context of inadequate skill advancement. Regarding university type, the assessments reveal that learners from University of Sindh showed comparatively superior level of transferable skill set in comparison to the students from Shah Abdul Latif University and GC University Hyderabad, signifying that institutional environment, infrastructure, and instructional approaches are likely to impact academic performance. In the same manner, variations in department/major reveal that learners belonging to Education programs exhibited greater transferable skills in comparison to the learners of Natural Sciences, Arts, Commerce, Social Sciences, and Computer-related disciplines, demonstrating the significance of pedagogical orientation and curriculum design.

Results about year-wise academic progress underline that sophomores described relatively superior level of transferable skill set than freshmen, juniors, or seniors. This finding reveals that skill advancement does not necessarily pursue straight sequential path and may rely on the context and strength of educational experiences during various stages of undergraduate academic life. Additionally, the finding that out-of-campus learners exhibited greater extent of transferable skill set in comparison to learners residing in hostels underlines the important part played by contextual and experiential features in advancing learner capabilities.

In spite of these variations, the constantly inferior level of transferable skill set among all the studied groups underline a systemic problem in Pakistani HE. Variations in HEIs are inadequate to guarantee effective skill advancement, calling for broad reforms in teaching, learning, and assessment practices. In the presence

of these structural constraints, HEIs may keep on producing insufficiently equipped graduates, who are not ready to cater to job market requirements and extensive socioeconomic challenges.

Recommendations

Based on the conclusions drawn from the study, a set of recommendations is submitted. First, national benchmarks for transferable skill set advancement should be established to ascertain uniformity in all HEIs. Second, all academic departments/ majors, specifically those having inferior skill outcomes, such as Computer/ IT-related, Social Sciences, should integrate transferable skill set explicitly into curricula and assessment frameworks. Third, for strengthening critical, communication, and innovative skills, HEIs should implement experiential and interactive teaching approaches, for example project-oriented learning, case study, and simulation. Fourth, targeted interventions may be initiated for freshmen, sophomores, and juniors to guarantee continuous skill advancement. Fifth, HEIs should ensure that learners residing at hostel gain from structured learning and co-curricular activities. Sixth, in view of the inferior level of self-directed learning, HEIs should incorporate reflective assignments, research-based tasks, and digital learning instruments to promote autonomy and lifelong learning skills. Seventh, continuous training advancement programs may be initiated for teachers in competency-based education, innovative pedagogy, and effective assessment of transferable skill set. Eighth, HEIs should establish structured platforms, for example academic clubs, peer learning groups, and academia-industry links, to boost learner interaction and real-world skill application.

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